Mathematics ECAT Pre Engineering Chapter 19 Integration Online Test

Sr	Questions	Answers Choice
1	Archimedes approximate the function by horizontal function and the area under f by the sum of small	A. Parallelograms B. Squares C. Retangles D. Polygons
2	The area bounded by y = x (x2 - 4) and below x - axis is	A. 4 B. 0 C. -4 D. 8
3	f(x)g(x)- ∫g(x) f′(x) dx is equal to	A. ∫f(x)g′(x)dx B. ∫f′(x)g(x)dx C. ∫f′(x)g(x)′dx D. ∫f(x)g(x)dx
4	The approximate increase in the area of a circular disc if its diameter increased form 44cm to 44.4cm is	A. 0.4cm B. 8.8πcm C. 17.6 πcm D. 35.2πcm
5	∛8.6 is approximately equal to	A. 2.488 B. 2.48 C. 2.0488 D. 2.05
6	The approximate percentage increase in the volume of a cube if the length of its each edge changes from 5 to 5.02 is	A. 1.2% B. 1.5% C. 0.16% D. 100.16%
7	The number of arbitrary constants in the general solution of a differential equation is equal to the different equation	A. Order B. Degree C. Variables D. All are correct
8	The function ø(x) is ananti derivativeof function f (x),x∈Df if	A. ø′(x) =∫f(x)dx B. ø(x) =∫f(x)dx C. ø′(x) =f(x) D. ø(x) =∫′(x)dx
9	The set of all antiderivaties of f(= ∫f(x)dx) is the	A. Definite integral B. Indefinite integral C. Integral D. Area
10	The process of finding a function whose derivative is given is called a	A. Differentiation B. Integration C. Differential D. None
11	Question Image	D. none of these
12	Question Image	
13	Question Image	A. 2x + 3 B. x²+ 3 + c
14	Question Image	B. 6x + 2 + c C. 6x + x²+ c D. 6x³+ x²+ x
15	Question Image	A. 6x - 2 + c B. x³- x²+ x + c C. 6x - x²+ c D. 6x³- x²+ c
16	Question Image	
17	Question Image	
18	Question Image	

19	Question Image	A. cos x + c B. -sin x + c C. -cos x + c D. sin x + c
20	Question Image	A. sin x + c B. -sin x + c C. cos x + c D. -cos x + c
21	Question Image	A. 1 + tan²x + c B. tan x + c C. -tan x + c D. cot x + c
22	Question Image	A. cot x + c B. tan x + c C. -cot x + c D. -tan x + c
23	Question Image	A. cosec x + c B. -cosec x + c C. -sec x + c D. sec x + c
24	Question Image	A. cosec x + c B. -cosec x + c C. -sec x + c D. sec x + c
25	Question Image	A. e^x+ c B. e^{-x}+ c C. x e^x+ c D. not possible
26	Question Image	B. a^xln a + c C. a^x+ c D. x a^x+ c
27	Question Image	B. x⁻²+ c D. not possible
28	Question Image	
29	Question Image	
30	Question Image	
31	Question Image	
32	Question Image	A. 5x^{4 + c} B. 1/6 x⁶+ c C. 5x²+ c D. 1/5 x⁶+ c
33	Question Image	
34	Question Image	
35	Question Image	
36	Question Image	A. a cos(ax + b) + c B. - a cos(ax + b) + c
37	Question Image	A. a sin(ax + b) + c B. - a sin(ax + b) + c
38	Question Image	A. a tan(ax + b) + c B. - a tan(ax + b) + c
39	Question Image	A. a cot(ax + b) + c B. - a cot(ax + b) + c
40	Question Image	A. a sec(ax + b) + c B. - a sec(ax + b) + c
41	Question Image	A. a cosec(ax + b) + c B. - a cosec(ax + b) + c
42	Question Image	
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50	Question Image	
51	Question Image	
52	Question Image	
53	Question Image	B. sin 2x + c C. -sin 2x + c
54	Question Image	A. cos 3x + c B. - cos 3x + c
55	Question Image	A. sec 5x + c B. - sec 5x + c
56	Question Image	
57	Question Image	B. a f(x) + c C. f(x) + a
58	Question Image	A. 2x - 3x + c C. x²- 3x + c
59	Question Image	A. x³- x²+ x + c B. 6x - 2 + c C. x³- 2x + c
60	Question Image	A. cos 2x + c B. - cos 2x + c C. tan 2x + c D. cot 2x + c
61	Question Image	A. - cot 4x + c B. cot 4x + c C. tan 4x + c D. - tan 4x + c
62	Question Image	B. tan 3x + c C. cot 3x + c D. - cot 3x + c
63	Question Image	A. sec 3x + c B. - cosec 3x + c
64	Question Image	
65	Question Image	C. ln f(x) + c D. f(x) - c
66	Question Image	C. x²+ 2x + c D. (x²+ 2x -1)⁴+ c
67	Question Image	A. 4(x³-3x²)³+ c B. 3x²- 6x + c
68	Question Image	A. (x³- 3x²)⁸+ c D. 3x²- 6x + c
69	Question Image	B. ln(x²- x + 1) + c D. ln(2x - 1) + c
70	Question Image	B. ln(x²- x + 1)⁴+ c
71	Question Image	
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85	Question Image	
86	Question Image	
87	Question Image	
88	Question Image	
89	Question Image	
90	Question Image	
91	Question Image	A. 2, 3 B. 3, 3 C. 2, 6 D. 2, 4
92	Te order of the differential equation of all conics whose axes coincide with the axes of co-ordinates is	A. 2 B. 3 C. 4 D. 1
93	Question Image	A. 1 B. 2 C. 3 D. 4
94	Question Image	A. 1 B. 2 C. 3 D. 4
95	The differential equation representing the family of curves y = A cos (x + B), where A, B are parameters, is	
96	The differential equations of all conis whose axes coincide with the co-ordinate axis is	
97	The differential equation of all st. lines which are at a constant distance to form the origin is	
98	Question Image	
99	Question Image	A. y + 1 = Ae^x B. y + 1 = Axe^x C. xe^x= C D. y + xe^x= C
100	Question Image	
101	Question Image	
102	Question Image	
103	Which of the following integrals can be evaluated	
104	Question Image	
105	Question Image	
106	Question Image	A. A variable B. A constant C. 0 D. None of these

107	Question Image	A. X = 100 sinθ B. X = 10 sinθ C. X = 100 secθ D. None of these
108	Question Image	
109	Question Image	
110	Question Image	A. Y = -x log x -x + c B. Y = x log x + x C. Y = x log x - x + c D. None of these
111	The arbitrary constants involving in the solution can be determined by the given conditions. Such conditions are called	A. Boundaries B. Variable separable C. Initial values D. None
112	If the lower limit of an integral is a constant and the upper limit is a variable, then the integral is a	A. Constant function B. Variable value C. Function of upper limit D. All
113	If the graph of f is entirely below the x-axis, then the value of definite integral is	A. = 0 B. < 0 C. > 0 D. None
114	Question Image	A. Always negative B. Zero C. Always positive D. Infinity
115	Question Image	A. 0 B. 1 C. 2 D. 4
116	Question Image	A. π B. π/6 C. -π/2 D. 2π
117	Question Image	
118	Which of the following integrals can be evaluated	
119	An integral of 1/x dx is:	A. 1/x² B. 1/-x² C. 1/lnx D. lnx
		A. Definite itegral

120	∫$f(x)$ is known as:	B. Indefinite integral C. Fixed integral D. Multiple integral
121	The integral of $3x^5$dx is:	A. 15 x⁴ B. x⁶/2 C. 1/6x⁵ D. x⁵/ln3
122	∫Sec^2 (ax + b) dx is equal to:	A. tan² (ax + b) B. 1/a tan² (ax + b) C. 1/atan (ax +b) D. tan (ax + b)
123	∫sin(ax+b) dx is equal to:	A. 1/2a cos (ax + b) B. -1/a cos (ax +b) C. 1/a cos (ax +b) D. 1/a ln (ax + b)
124	∫ x cos dx is equal to :	A. x cos x + sin x B. cos x + x sin x C. x cos x + x sin x D. x sin x + cos x
125	∫x sin xdx is equal to:	A. sin x/x + cos x B. sin x - cos x/x C. x cos x + sin x D. - x cos x + sin x
126	∫x/Sin^2 x dx is equal to:	A. x cot x + ln|sin x| B. -x cot x - ln|sin x| C. x cot x - ln|sin x| D. x. tan x- ln|sec x|
127	The area between the x-axis and the curve y = x^2 + 1 from x = 1 to 2 is:	A. 15/6 B. 15/4 C. 10/4 D. 10/3
128	The area between the x-axis the curve y =4x-x2 is :	A. 32/2 B. 15 C. 18 D. 21
129	The area under the curve y = 1/x^2 between x = 1 and x =4 is:	A. -25 B. 0.75 C. -0.35 D. -10
130	The area enclosed between the graph y = x^2 -4x and the x- axis is:	A. 20/3 B. 41/3 C. 32/3 D. 25/3
131	The general solution of the differential equation x dy / dx = 1 + y is:	A. 2 B. 1 C. 3 D. None
132	An equation in which at least one term contains dy/dx, d^2 y /dx^2etc, is called.	A. Differential equation B. Initial condition C. General solution D. Singular equation
133	The solution of differential equation:	A. dy/dx+y/x = x²is : B. 4xy = x⁴+ c C. 4x = x⁴= c D. 4 y = x⁴+ c E. 4x=4x³ + c